

the summer temperature in general is only a few degrees above the calculated; Germany is crossed in July by the isotherm of 68°, and Britain by that of 59°; but the difference in vegetation is not caused by a difference in mean temperature of 9°, but by the difference in the amount of sunshine.

Thus we come to the conclusion that a mixed climate, with relatively mild winters (the anomaly of temperature for January is for Germany about 19° on the 50th parallel of latitude) and warm sunny summers, is the best suited for the vegetation of the temperate zone.

Flushing

M. BERGSMAN

### NOTES

THE International Congress of Hygiene will sit at the Hague from to-day till the 27th inst. Papers will be read by Messrs. Pasteur of Paris, Finkelberg of Bonn, Stephen Smith of New York, Marcy of Paris, W. H. Corfield of London, Emile Tielat of Paris, J. Crocq of Brussels, and A. Corradi of Pavia.

THE International Medical Congress at Copenhagen has been a great success. The next meeting will be held at Washington in September 1887. On behalf of the Collective Investigation Committee of the British Medical Association, Sir William Gull delivered an interesting lecture on the International Collective Investigation of Disease. A resolution for the establishment of a Permanent International Committee for the Collective Investigation of Disease was received with acclamation.

In an interesting descriptive article in the *Times* of yesterday on the Health Exhibition Biological Laboratory, the writer makes some forcible remarks on the position of research in this country. "Just as the advantages of such an institution as the projected Marine Biological Laboratory were illustrated and brought home to the mind by the International Fisheries Exhibition of 1883, so the present Health Exhibition should, as one outcome of its usefulness, lead to the foundation of some such institution for the extended and systematic study of the minute organisms which there is reason to believe are the causes of many forms of disease in plants, in animals, and in man. In Germany the State, recognising the value of the labours of Dr. Koch, contributes, though not very largely, to the prosecution of researches which give promise of invaluable results to all mankind. France, too, has acknowledged the practical character of the benefits which have in some measure already resulted from the experiments of M. Pasteur. In this country, where the State endowment of research is hardly admitted in principle, and where we have, perhaps too long, been content to leave all scientific research which was not directly remunerative to be pursued, with few attempts at organisation, by the few private individuals who, having the means, care to devote time and money to such objects, students of biological science are wondering whether the Royal College of Surgeons will apply some portion of the splendid bequest of Sir Erasmus Wilson to the purposes of research in this comparatively little-known but interesting field of inquiry. Without entering upon debatable ground, it may be said that in the small model laboratory for biological research, fitted up under the direction and now under the charge of Mr. Watson Cheyne at the Health Exhibition, the public may see and learn enough to convince the most sceptical of the vital importance of the knowledge which it is the purpose of such observations and experiments as are there exemplified to obtain."

PROF. G. F. ARMSTRONG, of the Yorkshire College, Leeds, and formerly of Montreal University, writes to the *Times* of Monday last, drawing attention to the liberal provision made for technical education in America. The Americans, he maintains, are a generation ahead of us in this respect. At the same time he

draws attention to the danger of neglecting the preliminary general culture which is absolutely necessary as a sound foundation for any special training.

It is worthy of note that the Roman Catholic Church of St. John, built by the Marquis of Bute, at Old Cumnock, Ayrshire, has recently been fitted throughout with the electric light under the personal superintendence of Mr. William Massey, of Twyford. There are in all about seventy glow lamps of twenty candles each, and the effect is very perfect, the architectural features of the building having been carefully studied and the lamps arranged with due regard to the religious character of the place. The necessary current is supplied by means of a dynamo and steam-engine placed in a small house hidden among the trees of the churchyard, where it is also intended to generate electricity for working the organ bellows.

THE inauguration of the Jouffroy statue at Besançon took place on Aug. 17. According to the French notion the Marquis de Jouffroy is believed to have been the real inventor of steam navigation, and the precursor of Fulton. M. de Lesseps was present at the ceremony.

THE effect of cheap interior telegraphy has been felt most happily in France, where the number of telegrams has multiplied in the most extraordinary manner. Last year there were 58 telegrams for each 100 inhabitants.

A FRENCH surveying vessel, the *Henri Rivière*, so called after the great explorer who lost his life in Tonquin, is to be sent to the higher waters of the Songkoi or Red River, not only to keep order among the pirates there, but also to survey the districts adjoining, and correct the inexactness of existing maps of the course of the river. As the ancient Khmer kingdom, Cambodia, has now been practically annexed to France, we may soon expect that the centre and eastern coast of the Indo-Chinese peninsula will be as well known to us as British India now is, for the French spare no money or pains to study their colonial possessions thoroughly.

AT the last meeting of the Paris Academy of Sciences, M. F. A. Forel described some peculiar luminous phenomena frequently observed by him and others during the spring and summer of this year at Morges on the Lake of Geneva, and especially on the Alps. When the sun was half veiled in white vapours, the clouds at Morges presented a reddish appearance at a distance of 20° or 25° from the solar disk. But the light effects were far more vivid when seen in the pure atmosphere of the Alpine regions; and in clear weather, that is to say, almost every day during the last fortnight, they were distinctly observed in the upland valley of Saas-Fée, Canton of Valais. The sun appeared as if encircled by a silvery white halo, very bright and lustrous, somewhat similar in appearance to the weird glow noted in the first phase of the crepuscular displays so frequently observed during last winter. This halo, whose radius may perhaps have measured some 12°, was itself surrounded by a broad, reddish corona with badly defined limits, whose orange or violet tints blended on the inner side with the silver halo, and outwardly with the azure sky. In breadth this corona was about equal to the radius of the halo. For a considerable distance from the sun the sky beyond these effects was of a deeper blue than usual, as was evident especially in the evening, when the setting sun disappearing behind the snowy Alpine crests seemed to impart to the western regions the shifting hues of a stormy sky. One might fancy the sun visited by a great dust-cloud, but for the fact that, beyond these displays of colour, it was as luminous as ever, the firmament itself as serene, with deep azure tints, the transparency of which nothing seemed to impair. The phenomenon attained its greatest intensity on July 23, a lovely midsummer day, when it was also observed at Sand-Alp in the

Canton of Glaris, at Kandersteg in the Canton of Berne, and at Charmey in the lower Valais. On the same day M. Auguste Arcimis noted crepuscular glows at Madrid analogous to those of last winter. He remarked in particular a bright corona around the sun, of a silvery white and with a diameter of about 48°. On the Alps the display remained more or less visible every day; but since his return to the plains on August 8, M. Forel lost all traces of it. He was assured by several observers that the phenomenon had been constantly noticed in Valais during the spring and summer of the present year. M. Forel asks whether it is to be regarded as a sequel to the surprising series of optical effects successively observed in the various regions of the globe since the tremendous eruption of Krakatoa on August 27, 1883, effects which in Europe reached their culminating point in the crepuscular glows and auroral displays of last November, December, and January. In connection with the same subject M. Jamin remarked that similar phenomena have been observed at Paris and in various parts of France during the exceptional heats of the last few weeks.

LIEUTENANT GREELY has published further details respecting his three years' residence in the Arctic regions. He says the extremes of temperature at the camp on Discovery Bay, which they had named Fort Conger, was from 52° above freezing-point to 66° below. In February 1883 the mercury was frozen into a solid mass, and continued in that state for fifteen days. The ordinary outdoor clothing of heavy flannels was found to be quite sufficient even on the coldest days. The extreme range of the barometer was from 29 in. to 31 in. The electrometer registered nothing. The aurora was noiseless, which is contrary to Sir George Nares's experience in 1876, but it was sufficiently bright to cast a shadow. The tide at their most northern settlement flowed from the north; that at Cape Sabine came from the south. The northern tide was two degrees warmer than that from the south. In Lady Franklin Bay it rose eight feet, and the Cape Sabine tide twelve feet. Surf was seen twice. The temperature of the water at the earlier camp averaged three degrees below freezing-point. During two years only two small sea fish were caught; but in Lake Alexander fine salmon were taken. Between Capes Bryant and Britannia Lieut. Lockwood found no bottom with a line of 155 fathoms. At the furthest point north which Lieut. Lockwood reached there was no Polar current, nor did he discover any open sea. The only sea animals met with were the walrus and different species of seal. The vegetation was similar to that seen all over the extreme north. At Lady Franklin Bay the deflection of the magnetic needle was 104 west. The coast of Greenland trended in a northeasterly direction as far as it could be traced. Lieut. Greely thinks the Pole will never be reached, unless every condition which has hitherto been unfavourable should be simultaneously favourable. The only route at all likely to prove successful is, he thinks, by Franz Josef Land. The Polar pack generally, which was reported by Dr. Pavy and Lieut. Lockwood to have been seen by them, almost certainly, Greely considers, proves the existence of an open Polar sea. No hardship was experienced by the explorers while they remained at Fort Conger; and if their physical condition had not degenerated the survivors believe they could have remained there ten years.

UNDER the title of "Bosquejos Ethnologicos," S. Carlos von Koseritz has just published in collective form a series of papers contributed by him during the last three years to the *Gazeta de Porto Alegre* on anthropological subjects in the province of Rio Grande do Sul and other parts of Brazil. A chief object of these papers is to place on permanent record the general conclusions based on a comparative study of the extensive ethnological collection to the formation of which the writer had devoted fifteen years' patient labour, but which was unfortunately com-

pletely destroyed in the disastrous fire at the Brazilian German Exhibition of Porto Alegre last year. The collection comprised over 2000 objects of all sorts, but chiefly rude and polished stone implements brought together from various parts of Rio Grande, and generally corresponding to those of the stone epochs in Europe. But those of a strictly Palæolithic type appear to be very rare, and as they occur promiscuously with Neolithic objects, the author infers that it is impossible to determine a Palæolithic antecedent to a Neolithic age in Brazil. A few rudely wrought diorite or nephrite weapons occur, as well as some quartz arrow-heads fashioned with great labour. But the great majority of the arms and utensils are of more or less polished diorite. Many were found associated with the remains of the Megatherium, of the *Rhinoceros tichorhinus*, and the cave bear, thus confirming the conclusions already deduced from the discovery of the fossil man of Lagôa Santa in Minas Geraes, and arguing as great an antiquity for the *homo Americanus* as for the River Drift men of the Old World. At the same time the writer considers that the earliest inhabitants of South Brazil were quite distinct from, and of a much lower type than, the Charruas and other tribes in possession of that region during the historic period. This conclusion is based especially on the evidence afforded by the skeleton recently found in a shell-mound on the banks of a freshwater lagoon near Cidreira, within three miles of the present coast of Rio Grande. During its removal to Porto Alegre, this skeleton, which must have been many thousand years old, got broken, but the skull has been carefully restored by Theodore Bischoff, and presents the same remarkable characteristics as two others of uncertain origin preserved in the National Museum of Porto Alegre. It is even of a more decidedly bestial type, with excessive prognathism of the upper jaw, extremely long and high cranium (hypsistenocephaly), depressed brow, prominent superciliary arches, imparting altogether a most ferocious expression to this specimen, which from the worn state of the teeth seems to have belonged to a very old man. Altogether the Cidreira skull completely confirms the views of Lacerda regarding the prehistoric race associated with the shell-mounds of South Brazil, a race which appears to be at present best represented, at least in some of its salient features, by the fierce Botocudos of the Aimores Mountains further north. It seems to have come originally from those highlands, and the author thinks it probable that the men of the Santa Catharina and Rio Grande refuse-heaps all belonged to the same aboriginal stock.

THE glaciers of the province of Terek, in the Caucasus, are the subject of a vivid description by M. Dinnik, in the last number of the *Memoirs* of the Caucasian Geographical Society (vol. xiii.) With the exception of the Adyl glacier, all those visited by M. Dinnik have been rapidly decreasing during this century. The great glacier of Bizinghi, one of the largest in the Caucasus (it is nine miles long, and one mile wide about the middle), has two great terminal moraines, one mile below its present end, and several lateral moraines, some 500 yards distant from its present borders, some of which still conceal masses of ice under the boulders and mud. On its western border an old moraine rises at least 200 feet above its surface. The same is true with regard to the great Azaou glacier of the Elbrus. Even the inhabitants have witnessed the retreat of glaciers, and they remember the time when the Bizinghi and Mijirghi glaciers, now one mile distant from one another, were connected together at their ends. Besides these relatively recent moraines, there are around the glaciers several others the boulders of which are much more worn out and more rounded, which testify to a former still greater extension of glaciers. As to the Adyl glacier, it was also decreasing when a formidable mass of mountain above it fell into the valley some eighteen years ago. It was broken to pieces, and its debris thickly covered the glacier for some five miles. The debris, which have still at



many places a thickness of several yards, have protected the ice from melting, and have made it advance down the valley.

THE last number of the *Memoirs* of the Caucasian Geographical Society (vol. xiii. part 1) contains a series of very interesting papers. M. Dinnik contributes three papers, in which he describes his wanderings through "the mountains and gorges" of the provinces of Terek and Kuban in Ossetia and about the sources of the Rion. The author devoted his attention especially to the glaciers of the tracts he visited, but his descriptions give a very striking picture of the general characters of the region, of its flora, and especially of its fauna. His remarks on this last will be most welcome to the zoologist and geographer. M. Weidenbaum gives an historical sketch of the different ascents of Ararat, and of the scientific conquest of its summit, so boldly denied each time by the Armenians, who do not admit that human feet may step on the virgin snow of the holy summit. The ascents of Tournefort, Parrot, Abich, Khodzko, Messrs. Freshfield and Tucker, and Bryce are described by the author. M. Lessar contributes a paper on his journeys to South Turcomania, Merv, Chardjui, and Khiva (already known from what has appeared in the St. Petersburg *Izvestia*). M. Rossikov gives a narrative of his journeys to the Upper Daghestan and Chechnia, and describes also two villages, Konhidat and Enheli, situated in the gorge of the Andian Koyson, the inhabitants of which are engaged in salt-mining. Two lithographs give an excellent idea of this crow's nest in the mountains, the flat-roofed houses of which are built upon one another, offering at the same time a means of defence and an economy of the poorly-allotted space on the slopes of stony crags.

IN a former paper to the Russian Chemical Society, Prof. Mendeléeff had arrived at the conclusion that the dilatation of liquids can be expressed by the formula 
$$V = \frac{1}{1 - kt}$$
 where  $k$  is a module which varies for different liquids, and increases with their volatility. The researches of M. Van der Vaals, combined with the above, have enabled Messrs. Thorpe and Rücker, in the April number of the *Journal* of the London Chemical Society, to establish the remarkable relation between the absolute temperature of boiling  $t_1$ , reckoned from the absolute zero ( $-273^\circ$ ), the volume  $V_1$ , measured at a temperature  $t$ , and a constant  $a$ , which seems to be near to 1.995 or 2. Now, in a communication to the Russian Chemical Society (vol. xvi. fasc. 5), Prof. Mendeléeff shows that, if the dilatation of gases and that of liquids be expressed by the formulæ—

$$V_1 = 1 + at \text{ and } V_t = \frac{1}{1 - kt},$$

which would give  $2t_1 = \frac{1}{k} - \frac{1}{a}$ , and the constant  $a$  be taken equal to 2, we receive—

$$\frac{1}{k} = 2t_1 + 273,$$

where  $k$  and  $t_1$  are determining one another. This deduction is confirmed, in fact, by direct measurements. The further progress in the mechanics of liquids, he says, must be expected from new experimental and theoretical researches into the compressibility of liquids at different temperatures and into its relations to the modulus of dilatation; the fundamental equation of liquids must express the relations between their volume, temperature, and pressure, as is the case for gases. As to a complete conception of the ideal state of bodies, it must contain also the relations to their molecular weight and composition.

THE "Handbook of the St. Nicholas Agassiz Association," issued by the President, Mr. Haslan H. Ballard of Lenox, Mass., is a little work of great interest, and should also be of much utility to those who desire to train up the young with a love for

Nature, and a desire to study her products and ways. The Association had a very modest beginning. Mr. Ballard was teaching in a school in Lenox, and in 1875 got his pupils to band together for the observation and study of natural objects. "It was the outgrowth of a life-long love for Nature, and a belief that education is incomplete unless it include some practical knowledge of the common objects that surround us." The idea was actually derived from a similar association in Switzerland, took root and flourished in Lenox, and after a few years the President thought that it might be extended to other places. The assistance of the editors of the well-known *St. Nicholas* magazine for the young was then invoked, and in 1880 a general invitation to others to join in the work appeared in that periodical. The response was very gratifying. Classes have been formed in various towns under the direction of the central organisation, and now 650 local scientific societies are at work with over 7000 students. Nor is it confined to the youth of both sexes, although originally intended for them, for the parents in many instances join, and there are some "chapters," or classes, wholly composed of adults. Still the work is principally among the young, and Mr. Ballard notes that the Association has found a wide field of usefulness in connection with public and private schools. Many teachers, he says, who have not been able to find a place for natural science in the ordinary school curriculum, and who have yet felt that their pupils should not grow up strangers to the flowers, trees, birds, and butterflies, have been glad to devote an hour once a fortnight to the guidance of a meeting devoted to these studies. The "Handbook," after describing somewhat enthusiastically and picturesquely the advantages of the Association, proceeds to give directions as to the formation and conduct of a class. Then follow chapters on the plan of work, how to make a cabinet, to collect specimens, what to do in winter and in the city, and so on—in fact, directions for the young student in every department of natural history to which he could turn his attention. A list of books recommended and of the various branches of the Association conclude the little book. Almost every State in the Union is represented among the branches, some of them very numerous, while foreign countries are represented by Canada, Chili, England, and Scotland. On the whole Mr. Ballard has a very gratifying story to tell of successful and voluntary effort, and we have no doubt that his little book will lead to a large increase in the Agassiz or similar associations by showing how easy it is to organise and work a "chapter," and the benefit derived from study carried on in this way.

IN the Report of the Bureau of Education of the United States for 1881 (see *NATURE*, vol. xxix. p. 506) the increase of a class of illiterate population recorded in the census of 1880 was touched upon. A Circular recently issued by the Bureau goes more thoroughly into the subject, and carefully compares the numbers of all the different classes of the population which came under this head at the last census with those of the census of 1870. It is satisfactory to find, from the safe ground of such statistics, that the late alarmist assertions of the terrible growth of an uneducated *proportion* of population is true only of five States out of forty-seven, viz. Maine, New Hampshire, California, Montana, and Nevada. In other States, and on the whole, the ratios of ignorance to education were diminished, even in the Southern States, where so large a proportion of the inhabitants have a tendency to "helpless over-production." Nevertheless, it is true that the *absolute number* of illiterates has increased, in spite of philanthropic as well as Government efforts, by over half a million in these States, and not among the coloured population only. There were 46,000 more in the Pacific States; and thirteen white children out of a hundred throughout the whole States "escaped the combined influences of church, day school, Sunday school, and family teaching." The objection raised in England to the franchise being given to an uneducated

class is urged most strongly in an appendix to this Circular, as being far more dangerous in the United States, where custom exerts no check. Since the danger is equal to the whole Union, while the burden of meeting it falls so heavily on certain States, it is again strongly urged that a part of the expense should be met by national taxation.

THE writer of the second Circular of Information published this year by the United States Bureau of Education trusts that the Shorthand Society of London will throw light upon the history of their art, as the material is quite inaccessible to the American student. Yet his industrious researches there enable him, after speaking of the shorthand invented by Cicero's freedman, and of its revival by Dr. Timothe Bright in Queen Elizabeth's time, to append the names and dates of more than 400 authors of English systems; a catalogue, 100 pages long, of writers and their works on the subject, and 112 alphabets of various dates, from 1602 to 1882. He is able also to quote thirteen monthly publications in the United States and Canada on this subject. It is to be hoped that, in this art as in nature, the result will be the survival of the fittest (Mr. J. Pitman's system already counts its 810th thousand of copies issued), and one is inclined to wonder whether some full and skilful system of denoting sounds might not be worked out, which would render unnecessary the more partial working of phonetic spelling.

THE culture of the tea-tree in Transcaucasia, which has been recently advocated by Dr. Woeikoff, has already been successfully carried out on a small scale for several years—as we learn from a recent communication of M. Zeidlitz to a Russian newspaper. It was an Englishman, Mr. Marr, who has inhabited Transcaucasia since 1822, who brought to a flourishing state the Crown garden at Ozurghety, and embellished it with a number of lemon, orange, and tea trees, these last numbering more than two hundred. After the Crimean war only twenty-five tea-trees were growing in this garden, and according to Mr. Marr's advice they were transplanted to a private estate at Gora, close to Tchakhataour. Since the estate has changed its proprietor, only two tea-trees have remained, but still they continue every year to flower and to give fruit, and M. Zeidlitz is sure that if the culture be seriously tried it might be successful in the valleys of the Koura and Rion.

THE additions to the Zoological Society's Gardens during the past week include a Ring-tailed Coati (*Nasua rufa* ♂) from South America, presented by Miss K. M. Battam; two Patagonian Cavies (*Dolichotis patagonica*) from Patagonia, a Hairy-rumped Agouti (*Dasyprocta prymnolopha*) from Guiana, a Ring-tailed Coati (*Nasua rufa*) from South America, two Rufous Tinamous (*Rhynchotus rufescens*) from Brazil, two Tuberculated Iguanas (*Iguana tuberculata*) from the West Indies, two Huanacos (*Lama huanacos* ♂ & ♀) from Bolivia, presented by Mr. Frank Parish, C.M.Z.S.; a Gray Parrot (*Psittacus erithacus*) from West Africa, presented by Mr. E. T. Holloway; a Vulpine Phalanger (*Phalangista vulpina*) from Australia, presented by Mr. H. Livermore; two Smooth Snakes (*Coronella levis*), European, presented by Mr. W. H. B. Pain; a Two-streaked Python (*Python bivittatus*), a Reticulated Python (*Python reticulata*), a Two-banded Monitor (*Varanus salvator*), a Fringed Tree Gecko (*Ptychozoon homalocephala*), a Javan Porcupine (*Hystrix javanica*) from Java, presented by Dr. F. H. Bauer, C.M.Z.S.; two Mountain Ka-Kas (*Nestor notabilis*) from New Zealand, a Three-coloured Lory (*Lorius tricolor*) from New Guinea, a Severe Macaw (*Ara severa*) from Brazil, deposited; ten Common Chameleons (*Chameleon vulgaris*) from North Africa, two Brazilian Cariamas (*Cariama cristata*) from Brazil, purchased; a Somali Wild Ass (*Equus somalicus* ♂) from Somali Land, received in exchange.

## OUR ASTRONOMICAL COLUMN

SCHMIDT'S VARIABLE-STAR IN VIRGO.—Prof. Schjellerup, writing from the Observatory, Copenhagen, on August 9, thus expresses himself with reference to a note which appeared in this column on his identification of the above object:—"On the article that is to be found in NATURE, July 31 last, about this star, allow me to make some essential remarks. The author entirely misconceives the sense of my note in Sûfi. It does not at all concern No. 19 Ptol., but only sets out that Lalande 25086 takes that place where must have been the star which Sûfi saw; and I may yet maintain the correctness of the note. I only ask the author to look at Bremicker's map, Hora XIII.; he will find there that Lalande 25086 has just equal distances from Spica and  $\delta$  Virginis (Ptol. 17), and, what is more, that this distance is nearly one and a half times the distance between Spica and  $\delta$  Virginis, very conformably to Sûfi's remark in the text: 'Entre elle (19) et al-simâk ( $\alpha$  Virginis) vers le sud-est, il y a environ une coudée et demie, et entre elle et la 17<sup>e</sup> il y a la même distance. Avec al-simâk et la 17<sup>e</sup> elle forme un triangle isocèle, cette étoile étant au sommet.' It is also to be remarked that Sûfi has before declared the distance between No. 17 and Spica as 'environ une coudée,' that is, nearly 2° 20'. What is here said about 19 (Sûfi) does not at all agree with the position of No. 19 by Ptolemy, which is also pointed out by Sûfi himself as follows: 'La latitude de cette étoile, indiquée dans le livre de Ptolémée, se trouve erronée, parce que, au ciel, elle se fait voir autrement qu'elle ne tombe sur le globe.' We are glad to print Prof. Schjellerup's explanation of the purport of his note; it is quite possible that others may have interpreted it as we did.

THE NEW COMET.—Several orbits for this comet have been published in the *Astronomische Nachrichten*, founded for the most part upon the position obtained on the night of discovery, July 16, and on M. Trépied's observations on July 23 and 29, where there appears to have been at first some doubt as to the comparison-star. The middle observation is not well represented by any of these parabolic orbits, and Prof. Weiss conjectures that there is considerable ellipticity, at the same time remarking that a certain general resemblance exists between the elements of the present comet and those of the lost short-period comet of De Vico, observed in 1844, but not found since that year. In the uncertainty which seems to have attached to the observations at Algiers, it would not be safe to speak confidently as to the nature of the orbit, though it may be decided in a very short time.

Prof. Tacchini has kindly communicated the following observation made at the Observatory of the Collegio Romano:—

Rome M.T.	Right Ascension	Declination
h. m. s.	h. m. s.	h. m. s.
August 9, at 8 31 56 ...	16 51 20.14 ..	-36 56 25.5

The comet was very faint, and the observations, by Prof. Millosevich, are a little uncertain.

The best parabola, according to Prof. Weiss, has the following elements:—

Perihelion passage, August 17.5109 G.M.T.

Longitude of perihelion ... ..	301° 57' 24"	} M.Eq. 1884.0
" ascending node ... ..	357 45 51	
Inclination ... ..	7 2 31	
Logarithm of perihelion distance	0.147982	
Motion—direct.		

The most reliable elements of De Vico's comet of 1844 are those given by Brünnow in the Ann Arbor *Astronomical Notices*.

BROSEN'S COMET.—From a note of Prof. Krueger's in the *Astronomische Nachrichten*, it seems that Dr. Schulze has not been able to undertake the calculation of the perturbations of this comet since its last appearance in 1879, and accordingly the rough ephemeris lately given in NATURE is transferred to that journal.

## THE FORESTS OF NORTHERN EUROPE

A VERY recent report has appeared on this subject in the shape of a small Blue-Book which deals with the various aspects of the forestry question in certain of the more northerly States of Europe, such as Germany, Russia, Norway, Sweden, Coburg, and Gotha. The Report, which contains matter of great interest in many ways, is the outcome of the proposals of Dr. Lyon, M.P., to rehabilitate the ancient forest system in Ireland; and although the greater part of it deals with the